THE VETERINARY RECORD

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WHERE IS THE VETERINARIAN?

It is always pleasant to hear of the triumphs of science; but it is an added pleasure when the triumph over disease in animals is shared in by veterinary surgeons. On Wednesday the Royal Society held its anniversary meeting and the President, Lord Lister, delivered an address. Among other subjects referred to was the rinderpest in South Africa, and his Lordship claimed as a great triumph the brilliant results which followed Koch's researches, and the even greater practical success which has attended the efforts of Kolle and Turner to obtain a lasting immunity by simultaneous injection of serum from a recovered ox and of blood from a diseased ox, at two different and distant parts of the animal it is desired to protect. Lord Lister said it had been estimated that the effect of the preventive inoculations, including those with Koch's bile and other serum methods, had saved the lives of 700,000 head of cattle.

In the whole address there is no mention of a veterinary surgeon, and anyone who knew that not less than twenty of these professional men have been employed for three years in attempting to control the disease, must have wondered what they were doing.

It would be worse than folly to try and detract from the value of work done on rinderpest by Koch, and by Drs. Kolle and Turner, but it is only fair to point out that others have not been idle. M. Semmer, a Russian veterinary surgeon, discovered the value of serum from a recovered ox before Professor Koch went to South Africa. He also pointed out that the immunity is only temporary. The great practical question was how to induce a permanent protection. It was known that one attack of disease gave immunity, and this fact suggested to the veterinary surgeon to the Natal Government—Mr. Watkins-Pitchford—the method of protection by first injecting serum from a salted ox and immediately submitting the animal to direct infection. In this way he succeeded in protecting cattle from a second attack as far back as December, 1896.

The veterinarians of South Africa may blame themselves for not having recorded their work, and for so losing the credit they deserve. It is, however, a little hard that whilst they have borne the heat and burden of the whole outbreak some members of the medical profession should reap all the praise.

Lord Lister founded his remarks upon the article in *The Lancet* of November 5th, 1898, by John Maberly, L.R.C.P. We should be glad to hear from any of the profession in South Africa as to the present condition of the disease.

STRYCHNINE POISONING IN A DOG.

By N. HOWE, M.R.C.V.S.,
Assistant Mr. F. Low, M.R.C.V.S., Norwich.

The above interesting case came under my notice during the week.

Subject.—A small fox terrier dog, aged 4 years.

History.—I was called to attend a dog, which they said had had seven fits during the afternoon. On arriving at the house I was informed that the dog was just recovering from one of the fits, he appeared very weak and prostrated.

I advised the owner to allow me to take him home with me, and to my surprise the request was granted. On arriving at the surgery he immediately had one of these fits, he become quite stiff, all the muscles of his body became contracted. Head was thrown back, tail erected, and the limbs were perfectly straight. Urine was ejected, and to all appearances dead. In a few seconds the muscles relaxed, and he was able to hold up his head. I at once suspected poisoning by strychnine, since they informed me that they had put down some poison for the mice, and also that the dog was very fond of catching them.

During the time between the convulsions he was very much excited, the least possible noise made him jump.

Treatment.—On recovering from the convulsion I immediately administered chloral hydrate, grs. 6 in solution, following in an hour with another dose, this I also repeated in three hours. By this time he appeared much better, and had not had another of these convulsions since the administration of the 1st dose of chloral. The 3rd dose he received about 11 p.m., and on the following morning he appeared perfectly well with the exception that he was a little stiff in his movement. I gave him another dose of chloral, the stiffness disappeared during the day, and in the evening was sent home perfectly well. During the day he ate and drank well.

ABSTRACTS FROM FOREIGN JOURNALS.

TREATMENT OF PURPURA IN THE HORSE WITH Dr. CREDÉS SILVER COLLOID.—By Dr. DIECKERHOFF.

(Continued from p. 312.)

Case I.—Cart mare, about 9 years old, had suffered for 8 days from sore throat, was brought into the clinique on October 12, 1898, because the hind limbs were œdematously swollen.

Condition on Oct. 13. Pulse 60, respirations 12, temperature 39·2. Petechial and hæmorrhagic suf-

fusions in the nasal mucous membrane on both sides. On the bridge of the nose the skin was swollen up as large as one's fist. On the forearm sharply defined œdematous swellings of the subcutis. On the hind limbs there was a diffuse œdematous swelling of the skin. Appetite bad.

Treatment.—Repeated fomentation of the hæmorhages in the skin with Burrow's mixture with camphor added. At intervals of 2 hours the horse received an injection into the jugular vein of 5 decigrammes of argent. colloid. in 5 decagrammes of distilled water.

On October 14 the petechiæ in the nostrils had disappeared and the œdematous swellings showed noticeable diminution. During the following days normal appetite returned, and on the 27th of October the mare was discharged from the clinique completely cured.

Case II. On October 16, 1898, a six year old brown cart gelding was brought into the clinique. Pulse 56, respirations 12, temperature 39·1. There was severe swelling of the sheath and prolapsus penis, and hæmorrhagic suffusions on the nasal mucous membranes. There was swelling of the skin of the head and of all four limbs. From the symptoms morbid maculosus was assuredly diagnosed.

On October 17th there was no visible change in the condition.

On October 18th injection of arg. colloid 5 decigrammes in 5 decagrammes of water into the left jugular, besides local treatment of the sheath and penis. The condition improved after a day, and on October 25th the horse was discharged completely cured.

Case III. On October 19th, a 15 year old mare was brought in suffering from morbus masculosus.

On October 21 and 22. after fomenting the swellings with Burrow's mixture, an intravenous injection of 50 decigrammes of argent. colloid. in 50 decagrammes of water was given.

On October 23rd all visible signs of hæmorrhages had disappeared, and on October 25th the owner received his mare back cured.

Case IV. On November 9th a 16 year old black van mare was brought in which had exhibited symptoms of colic for two hours. There was widespread hæmorrhagic suffusion of nasal mucous membrane, great swelling of the skin on the ridge of the nose, on the cheeks and lips on both sides; eyelids puffed up and conjunctivæ on the lids, and corneæ hæmorrhagically infiltrated. Inspiration was accomplished with a snoring noise. The mare could hardly be kept standing from the colic; limbs not swollen; mare refused all food and drink; mastication and deglutition at a standstill; pulse 45, respirations 18, temperature 39·3.

On November 9th, from 9 a.m. till 7 p.m, this mare received 5 injections of 5 decigrammes at intervals of two hours.

On November 10th she received two injections of 50 decigrammes.

On November 11th mare had a good appetite, eating oats, hay and carrots.

On November 12th and 13th there was only a small discharge from both nostrils, which I was of opinion was from the healing mucous membrane.

From these trials Dr. Dieckerhoff's looks upon argentum colloidale Credé as a very effective agent in the treatment of purpura. He also thinks the remedy would be of good service in pyæmia and septicæmia, and probably in diffuse elephantiasis, and phlegmonous affections of the subcutis after wound infection. The price does not militate against the employment of the drug, 10 grammes costing about 3s. 6d. wholesale, and one gramme about 6d. at a retail druggists.

Practical Experiences of Schmidt's Treatment of Milk Fever.—(From a meeting of Veterinary Surgeons held at Schleswig Holstein.)

Veterinary Surgeon Thoisen, of Schotzbüll had collected results of 1,660 cases treated in Denmark. Of these 86·4 per cent. recovered, 4 per cent. were affected with subsequent paralysis and were slaughtered, and 9·6 per cent. died of one or other of the affections mentioned below. In 874 cases notes were taken of the animal's age and time of occurrence of the illness. The illness occurred most frequently after the 7th to the 9th calf, and between 18 to 24 hours after calving; 7 cases occurred before calving, and only 44 cases 48 hours after calving. Veterinary Surgeon Thoisen himself treated 47 cases, 40 recovering, three dying of metritis, gangrene of the lungs, and inflammation of the kidneys respectively, and the others died paralysed.

Ten other veterinary surgeons gave their experiences. Altogether statistics were given of 1,945 cases treated.

From these experiences it was gathered that there were 80 per cent. of recoveries with this treatment. Camphor injections as well as caffeine were considered very useful. As incidental illnesses inflammation of the udder, pneumonia from foreign bodies, and metritis were especially noted.—*Berliner Thierarzt Woch.*

G. M.

Streptococcus of Strangles.

We are indebted to Professor Bowhill for the following:—

Cappelletti and Vivaldi investigated bacteriologically a severe epidemic of *adenite equina*, which occurred in the beginning of 1897, amongst the artillery horses stationed at Treviso—when out of 25 affected animals 12 died.

They isolated from the diseased products (blood, organs, etc., of the acute cases) a streptococcus which they consider to be identical with that described by Schütz, Sand, and Jenson, and other authors as the cause of strangles. The article confines itself principally to the biology of this streptococcus.

They state that it grows on the ordinary nutrient media under 20° C. badly, but at from 24 to 37° C. the growth is good, while on solid media it forms very small colonies.

Mice were found very susceptible to infection and when inoculated subcutaneously with the blood or lung serum of the affected horses died within 4 days.

Inoculated rabbits generally succumbed within 24 hours.

Guinea-pigs exhibited a greater resistance, for the introduction of diseased material into them produced only transitory local changes. Whether after recovery a permanent immunity was acquired was not observed.

The authors conclude their paper by stating that *the organism mentioned above as the cause of strangles in horses is nothing else than the streptococcus pyogenes.*—(*Lo streptococcus equi.—Annali d'igiene experimentale*, vol. 8 (*nuova seria*), 1898, p. 704. *Hygiene Institute, University Padua.*

VETERINARY SOCIETIES.

WEST OF SCOTLAND VETERINARY MEDICAL ASSOCIATION.

A meeting of the above Asscciation was held in the Religious Institution Rooms, Buchanan Street, Glasgow, on Wednesday, October 26th. The President, Dr. Jas. McIntosh McCall occupied the chair. There were also present the following members: Messrs. Wm. Anderson, Jas. Weir, J. R. McCall, A. Hamilton, and Wm. Robb, of Glasgow; Hugh Begg, East Kilbride; Wm. Brownlie, Coatbridge; Thos. Douglas, Kilmarnock; Wm. Robertson, Kirkintilloch; Jno. Taylor, Cathkin; Wm. Peddie, Cathcart; Hugh Ferrier, Alexandria; Jas. Pottie, Paisley; and David Allan, Busby.

Letters of apology were read from Messrs. Clark, Coupar Angus; H. Thompson, Aberdeen; and Professor McLauchlan Young, Aberdeen. A telegram was also received from Professor Dewar regretting his inability to be present.

The minutes of the previous meeting were then read and confirmed. Their being no other business to bring before the meeting Mr. Trotter, of the Sanitary Department, Glasgow, was asked to read his paper.

TUBERCULOSIS.—A PREVENTIBLE DISEASE.

By A. M. Trotter, M.R.C.V.S., Public Health Department Glasgow.

The part played by heredity in the transmission of tuberculosis is infinitesimal. Such, in brief, is the unanimous decision of the whole scientific world. "Animals are born tuberculisable not tuberculous," and so far as the bovine species is concerned this is proved by its rarity in young calves.

During the year 1895 there were slaughtered in the Kingdom of Saxony some 82,787 cattle; of these 27·48 per cent. were tuberculous, whilst of 201,643 calves only 0·24 per cent. were affected.

In the Central Viehhof, Berlin, from the 1st. April, 1895, to 31st March, 1896, some 145,369 calves were killed and of this number but 0·106 per cent. were found subjects of this disease. The percentage of adult cattle for this period being 17·65.

The percentages of the adult bovines are somewhat misleading, as they include all cattle. In cows this should be considerably higher; for instance, the proportion affected of cattle slaughtered in Zwiehan during the year 1896 was 37·5 per cent., that of milch cows 51·7 per cent., whilst in calves 0·43 per cent.

If, as some assert, the disease is transmitted with unerring precision from generation to generation, one would naturally expect, under these circumstances, a much larger percentage in calves, and yet it must not be concluded that all enumerated in these tables contracted the disease in utero. Although possible, it is improbable, as the majority were not slaughtered for several weeks after birth, during which period they had been exposed to infection. Congenitally acquired tuberculosis is extremely uncommon, and has only been found with sufficient frequency and certainty to prove that the inheritance of the bacillus is not impossible. In such cases the lesions will be found following the course of the umbilical vessels, and situated mainly in the liver and neighbouring lymphatic glands. No case can with certainty be said to be intra-uterine in origin after the expiry of two weeks, and in all cases the diagnosis should be confirmed by microscopical examination, or by inoculation experiments. If these means are not had recourse to, a very grave error in diagnosis may result, as macroscopical examination is not sufficient. In *The Journal of Comparative Pathology and Therapeutics*, March, 1898, Prof. M'Fadyean states that he had had two calves sent for examination, of which the non-tuberculous nature was easily demonstrated. Koch, who has never seen the disease transmitted by his tuberculous guinea-pigs to their offspring, says: "Hereditary tuberculosis finds its most natural explanation if one admits that it is not the infectious germ which is transmitted, but certain peculiarities which are favourable to the development of this germ when afterwards brought into contact with the body. This we call the predisposition." It has been stated (Empis, Landonzy, and Martin) that not only is the predisposition transmitted from tuberculous mothers to their offspring but the bacilli also, and that the latter may remain inert for a variable time before affecting their evolution; consequently such animals may be pronounced healthy at the abattoirs owing to the lesions being so minute as to be undiscernible to the naked eye. This, however, is purely hypothetical, and no fact can be adduced in its corroboration. Indeed it is against the laws of nature for a seed retaining its vitality not to germinate when placed under the most favourable conditions for its propagation. Experimentally, too, this hypothesis is disproved, as we can with certainty produce the disease in an animal by inoculating it with the specific organism. Nor can it be supported from clinical observation, as animals born of tuberculous parents have been reared without taint. An instance has been placed on record by Nocard where a large quantity of the bac. tuberculosis, in pure culture, was injected into the jugular vein of an old goat. Although kept under close observation for a long time no evidence of pulmonary affection manifested itself. At the expiry of five years the animal died, and autopsy revealed extensive lung mischief; more than four-fifths of the pulmonary tissue being destroyed. A bacteriological examination showed that the bacilli were present in the lesions in great numbers. It had borne young on three successive years, having had a pair of kids each time. These showed no symptoms during life, and a careful post-mortem examination proved negative.*

The result of this experiment practically forms the basis of the scheme devised by Bang and which has since been proved of great practical utility in eradicating the disease without resorting to heroic measures. That a sound healthy herd can with care be developed from what a few years ago one would naturally have termed an irretrievably affected stock is unquestionable.

From the returns issued by the Liepzig veterinary authorities I have compiled a table showing the distribution of the disease in the various domestic animals. These statistics are especially valuable, dealing as they do with large numbers and extending over a period of three years.

**Journal of Comparative Pathology and Therapeutics*, vol. III. part 3, p. 275.

LEIPZIG 1894-95-96.

	LOCALISED.				GENERALISED.							
	One Organ.	Several Organs	In several body cavities.	Total.	Spleen.	Kidneys	Mammæ	Bones	Body lymphatic glands.	Total.	Total affected.	Total slaughtered
Cattle	16,540	916	3485	20,941	439	913	180	114	278	1302	22,243	69,718
Calves	71	4	13	88	226	82	4	0	71	250	338	177,287
Sheep	6	3	1	10	11	3	0	0	6	13	23	136,558
Goats	1	0	1	2	0	0	0	0	0	0	2	579
Swine	2738	31	3119	5888	2807	709	349	308	491	2999	8887	339,579
Horse	3	0	1	4	2	1	0	0	0	3	7	3132

A perusal of this table clearly indicates that in calves the course of the disease is usually rapid with a tenddency to become generalised. This is doubtless due to the feeble vital resistance of the system, as well as the higher temperature and greater amount of moisture in the tissues. No sooner have the bacilli, multiplying at their point of settlement, given rise to the formation of tubercles, than these rapidly undergo caseous degeneration producing secondary nodules which appear along the course of the different lymph channels leading from the primary focus. In these resulting lesions the same changes take place causing numerous successive localisations which must eventually lead to the generalisation of the disease if death does not intervene. In adults on the other hand, its course is extremely slow, and in the majority of cases, when examined after death, deposits are found only in a lymphatic gland or organ. An animal with a single focus in a gland or organ is as truly tuberculous as when the disease has invaded both thoracic and peritoneal cavities the only difference being one of degree. It is simply absurd to say that an animal affected to a slight extent in the lungs or bronchial glands can transmit the bacilli to its progeny. Before such can occur the uterus must become the seat of disease, either as the result of coition, by extension from the peritoneal cavity, or by the bacilli gaining access to the blood stream.

The evidence furnished in these statistics of the distribution of the tuberculous lesions in the viscera of adult bovines warrants the conclusion that in the vast majority of cases the tubercle bacilli are not carried by the blood stream. During this period 69,718 cattle were slaughtered, of which 22,243 were found more or less affected and although these were examined by experienced and highly trained veterinary surgeons, only in 1302 was the disease detected as being generalised. This in itself is reassuring but experiments carefully carried out show that even in such cases the presence of the tubercle bacilli in the blood stream is of short duration. M'Fadyean injected 8 c.c. of an emulsion, rich in bacilli, into the jugular vein of three horses. From these blood was withdrawn after inoculation 24, 29, and 48 hours respectively, defibrinated and injected into the peritoneum of guinea-pigs. All, without exception, were found to be free from the disease. These results corroborate those obtained by Bang with blood from extremely tuberculous cows, several indeed revealing after slaughter lesions indicating that the bacilli had at one time been disseminated by the blood stream. This observer inoculated the defibrinated blood of 20 tuberculous animals into 38 rabbits and two guinea-pigs. Of the 20 cows the blood in 18 instances proved negative; one the subject of acute miliary tuberculosis yielded positive results, whilst in the other only one experimental animal was found affected in a trifling degree. The latter being in all probability the result of accidental contamination. It does not follow, however, that even when generalisation has taken place the uterus becomes infiltrated by the disease. Lungwitz, who has chronicled the frequency that uterine lesions are met with in slaughtered animals found, of 267 cows, the subjects of either generalised tuberculosis or of extensive peritoneal invasions, 152 or 57·9 per cent. were thus affected.*

Tuberculosis of this organ would therefore appear to be comparatively common in these advanced cases, but fortunately the detection of this condition is, as a rule, easy. Usually the whole organ is invaded, and as the lesions rapidly undergo caseous degeneration a profuse chronic muco-purulent discharge is the result. A careful microscopical examination of the discharge, along with the previous history of the animal and the clinical symptoms observed, should enable one to arrive at a correct diagnosis. In such cases abortion is the usual result of pregnancy. Congenitally acquired tuberculosis is of little moment to the hygienic administrator, not only because of its rarity, but should the animal be alive when born a fatal termination would in all probability rapidly ensue. Bang, who has devoted much time to this subject, considers that in Denmark only three or four per cent. of all calves are thus affected. The great rarity of the disease in calves and in young animals generally shows that it is not hereditary in the proper sense of the term. An investigation undertaken by E. J. Marsh, M.D., Medical Director of the Mutual Life Insurance Company, of New York, shows conclusively that the death of a brother or sister from tuberculosis is of equal significance with that of a parent.

The regular augmentation of the frequency of the malady with age proves that the disease has been contracted during extra-uterine life

This is what one would naturally expect, for from the moment of its birth till death a domesticated animal is surrounded by numerous sources of infection. No animal or breed can be said to be immune. This is exemplified in the history of the disease in various countries, for instance its distribution in Russia is very unequal. In the South it is seldom or never met with, whilst in the North 50 per cent. of the cattle are affected. According to M. Semmel this is accounted for by the different treatment of the animal. In the North for the greater part of the year they are closely housed, and fresh importations constantly added. Tuberculosis is very common in Denmark amongst domestic animals, especially cattle. Bang caused a collective investigation to the made in November, 1886, by addressing a number of questions on this subject to the veterinary surgeons throughout the country. The answers tended to show that until the middle of this century tuberculosis had been a rare disease amongst the cattle in Jylland, as well as on the islands, and it would seem to be conclusively proved that the disease has been imported into the country with foreign breeds, first Swiss, later on Angles, and shorthorn cattle. The disease is now widely spread, especially amongst stock belonging to large farmers and landed proprietors, and also amongst cattle belonging to tenant cottagers, (one who owns neither cottage nor lands,) who often buy animals turned out of the larger herds. The disease is less prevalent amongst cattle belonging to ordinary farmers. It is most frequent in Jylland and Sjælland, and less prevalent in

Zeit. Fleisch und Milch Hy., 1897, heft. II., p. 217.

Fyen. Herds in which no foreign cattle has been introduced are as good as free from tuberculosis; for instance, in the Island of Fuur in the Limfjord there is hardly any tuberculosis. On the whole, the districts in which the stock is recruited with its own breed are much less subject to the disease than those in which new cattle are constantly bought. On the other hand, the circumstance whether the race is especially bred for dairy purposes or not, seems to be of no real importance."*

Although tuberculosis had been unknown among the indigenous cattle of these countries for ages they proved highly susceptible when their habitations become contaminated by Koch's bacilli. The mere importation of a tuberculous animal into a byre containing sound cows is a great source of danger to the healthy members of the herd as it may become a centre for the dissemination of the bacilli, for should the lesions be situated in the lungs they are ejected by fits of coughing; in the bowels they pass out with the fæces, in the kidneys or generative organs they become voided with the urine or discharges from the genital passages; in the udder they are drawn off with the milk. An animal can never become the subject of tuberculosis, no matter how adverse the conditions or how unhygienic the surroundings under which it has been reared or housed, unless the specific organism gain access to its body.

Pathological anatomy and experiments show that the respiratory and digestive systems are the principal gates of entry for the bacilli.

Young animals are especially prone to contract the disease through the ingestion of contaminated material. This important fact cannot be too strongly impressed upon agriculturalists, as it is during that very susceptible period of their life that milk—the most likely of all foods to possess virulent properties—enters largely into their diet. It does not necessarily follow, however, that the presence of the bacilli in the food of an animal will inevitably produce the disease, as under ordinary circumstances ingestion only succeeds when the material is very virulent. A powerful factor in predisposing an animal to contracting the disease is the presence of filth in milk. This is largely composed of fæces, and must be a very prolific source of intestinal disorder. Any condition tending to weaken the mucous membrane of the alimentary canal materially facilitates the passage of the organism into the tissue. In Denmark, the North of Germany, America, and in some parts of this country the sediment thrown out by separators has been largely utilised in the feeding of swine with the result that tuberculosis of the intestinal tract has become extremely prevalent. The amount of dirt in commercial milk shows not only the deplorable conditions under which it is usually produced, but also the extreme carelessness exercised in its manipulation. In three estimations I made of market milk there were present:

Sample.	Dry Substance (1 litre)	Fresh Substance (1 litre.)
I.	·030 m. grm.	150 m. grm.
II.	·035 „	175 „
III.	·71 „	355 „

In Halle no less than 362 millegrammes of filth were found in one litre, whilst in Wurzburg the maximum was only 40·5 m.g., or nine times less. Even the latter amount is excessive and capable of producing serious consequences. The presence of the fæcal matter should always be regarded in the light of a probable source of the bacilli. This is exemplified by the experiments undertaken to demonstrate whether or not commercial milk possesses virulent properties. Out of nine samples examined by Buege of milk purchased in open market in Halle two gave positive results when inoculated into guinea-pigs. Although microscopically he failed to detect their presence, St. Fluus found that of 28 samples purchased in Copenhagen four were capable of producing the disease in guinea-pigs. The cows supplying this milk were submitted to a searching clinical examination, but mammary tuberculosis could only be detected in two herds. Of 80 guinea-pigs inoculated by Zaehasbekan with milk sold in St. Petersburg, four succumbed from tuberculosis. An investigation undertaken by the Health Authorities of the City of Liverpool showed that whilst 2·8 per cent. of the milk produced in city byres was infective no less than 29·1 per cent. of that sent in from the country was virulent.

There can be no doubt that the bacilli in the majority of cases gained access to the milk either through the medium of filth, or by being deposited from the air. Milk derived from a tuberculous animal is not infective unless the mammary glands themselves are infiltrated by the disease. This condition is observed in about 2 per cent. of all affected cows (Bang). At Zwichan during the year 1894, of 752 cows affected (35·4 per cent.) 6 were found showing mammary tuberculosis. For the same year in the kingdom of Saxony, of 16911 tuberculous cattle udder lesions were found in 156 instances; of 341 calves in 1; of 10 goats in 1; and of 8341 swine in 37. Riek out of 23,396 tuberculous cows found 69 cases, and on three occasions this condition was observed in the examination of 4070 tuberculous heifers. At Liepzig, during the years 1894-95-96, there were slaughtered:—

Cows and Heifers.	Affected.	Udder Lesions.
32,007.	12,198.	180.
Calves.	Affected.	Udder Lesions.
119,393.	235.	4.
Swine.	Affected.	Udder Lesions.
339,579.	8887.	249.

In the annual report of the City of Edinburgh for 1897, it is stated that of 2162 cows slaughtered in the abattoirs six had lesions in the mammæ. Tuberculosis of the udder as a primary affection is rare, and, as a rule, is associated with extensive deposits elsewhere. The result of an investigation undertaken by M'Fadyean and Woodhead led them to believe that 16 per cent. of all cases of mastitis were of a tuberculous nature. If this is so the compulsory removal of such should be insisted on. "The withdrawal from dairies of every cow that had any disease whatever of her udder would form some approach to security against the serious danger incurred by man from the use of tuberculous milk, but it would not be an adequate security." (Report of the Royal Commission on Tuberculosis, 1895, p. 17, 63). The most searching microscopical examination of milk drawn from an udder infiltrated by the disease may fail to detect a single organism, not that the bacilli are absent but the quantity examined is so extremely small that they may still be present in the fluid in fairly large numbers; needless to say this milk is dangerous. The researches of Ballinger and others show that by merely diluting such milk its infectivity is greatly diminished. This, however, is only of theoretical interest, as in practice it is not customary for cowfeeders to mix the milk of a whole herd. At the most the produce of several cows only are treated in this manner.

Attention may be here directed to the objectionable custom of giving milk drawn from cows suffering from illness to other animals in its natural condition. This should be discountenanced by the members of the veterinary profession, and stockowners advised regarding it.

As the vitality of these organisms is destroyed by exposure to a temperature of 85° c. for 5 minutes it will be sufficient to bring all milk to the boiling point before giving it as an article of diet.

This is a point that must be strictly adhered to if our efforts are to be crowned with success. How necessary it is to safeguard the health of these young animals from

* "Denmark, its Medical Organisation, Hygiene, and Demography, 1891," p. 350.

every possible source of infection may be gleaned from an incident which occurred on the dairy farm of Thurebylille where Bang has carried out his scheme for the gradual eradication of the disease since 1892. Two calves which reacted in May, 1897, were at once slaughtered, and an autopsy showed that both had contracted the disease by way of the digestive tract, one having a retro-pharyngeal gland affected, the other a member of the mesenteric group.

TABLE II.

*Age Distribution.**

Under 6 weeks	208	0·4 per cent.
From 6 weeks to 1 year	312	0·6 „
From 1 year to 3 years	5852	11·4 „
From 3 years to 6 years	16,993	33·1 „
From 6 years and over	22,279	43·4 „
Age not recorded	5733	11·2 „

* Röche Ergebuise der Ermittelungen über die Verbreitung der Tuberculose (Perslucht) unter dem Rindvich im deutschen Reiche, vom 1en, Oct., 1888. 30th Sept. 1889. (Arb. a. d. Raiserl, Gesundheitsamte, 1891, Bd. 7, p. 479.)

From table II. it is seen that the percentages increase with each classified period of age. Taking all animals under a year and considering them as one, we find that the disease has increased in frequency during the next period of comparison by 11 times, whilst the number between three and six years it has still further augumented to 33, and in those of six years and over to 43. This gradual increase in its prevalence is due to the greater risks of the animal the longer it is housed under contaminated and unhygienic surroundings. If the ingestion of infective material is to be feared and guarded against the dangers accruing from the inhalation of the tubercle bacilli are still greater. Riek has publishsd very interesting and instructive statistics regarding the mode of infection of the cases met with in Liepzig abattoir from July, 1888, to December, 1891. During this period some 67,077 oxen (not including calves) were slaughtered, and of which 13,688 were tuberculous. Of the latter 11,066 were affected in the respiratory organs only. Consequently 80 per cent. of all had had their origin through the inhalation of the tubercle bacilli. An investigation which I undertook whilst doing duty in the Edinburgh abattoir corroborates the conclusions of Riek. It is true the number examined is very small, but they fully confirmed the impression already formed. Throughout the enquiry the animals were not selected but taken in succession as they came under my observation. As a rule they had been in the possession of a cow feeder for one period of lactation :

Cows Examined.	Tuberculous.	Percentage.
155	113	72·9

Number found affecting organs in thoracic cavity	112
Number found affecting organs in peritoneal cavity	35
Confined to thoracic cavity	78
Confined to Peritoneal cavity	1
In both	34

In a paper read before the Incorporated Society of Medical Officers of Health, by E. Sergeant, M.D., Medical Officer of Health to the County of Lancaster, the carrying out of the regulations adopted under the Dairies, Cowsheds, and Milkshops Order are characterised as a "delusion and a snare." This may be strong language but occasion demands it. For instance the Medical Officer of Health for the County of Northumberland reports "That no regulations have been adopted under the Dairies, Cowsheds, and Milkshops Order. The lamentable and dangerous results of failing to adopt regulations under this Order can be seen in almost every district, the miserable hovels in which some milch cows are housed without any light, ventilation, drainage, or proper flooring, and in many cases without any water supply of decent purity."

Again, in Dr. Kaye's report of 1896 for West Riding, Yorks, the following occurs: "In many districts no regulations have been framed and others have regulations but do not enforce them beyond, perhaps, whitewashing, hence the Order has been dubbed the "whitewashing order." As it is under these unsatisfactory surroundings that the cows found in town byres have been reared and housed it would be surprising indeed—provided the sheds are infected—if a considerable number were not tuberculous. In this way a stream of already affected animals is continually flowing in to replace vacancies in the herds of cowfeeders. Unfortunately the environment of the latter is too often such as to favour infection. The result of housing animals in a grossly polluted atmosphere is to cause the disease to spread from animal to animal with alarming rapidity. Under these conditions, too, the disease in individual animals is a progressiue one, hence it has been asserted that bovine tuberculosis is incurable. My experience leads me to disagree entirely with such statements. That the progress of the disease is retarded and cures effected in the early stages by good hygiene is undoubted, but unfortunately, owing to the treatment of the lower animals such are seldom met with. In the Canton Freiburg, in the year 1890, out of 14,142 head of cattle insured there were 239 deaths—1·69 per cent.; 21 or 8·7 per cent. were due to tuberculosis.

In the district in which the cattle were largely fed out of doors the death from tuberculosis amounted to only 3 per cent. of the total losses, whereas in the district in which the animals were almost constantly housed and unnaturally fed the proportion from this cause was 2½ times greater.*

If no other argument for the better housing of domestic animals was forthcoming this should be sufficient to convince the most sceptical. It would appear that any hovel is deemed, by some, suitable for the housing of these animals when even the meagre requirements of local authorities are very imperfectly put into operation. True there are many good cowsheds, but these as a rule are the outcome of extra intelligence on the part of the owner.

Words fail to express the difference in treatment more clearly than the statistics furnished by the slaughter in Edinburgh of 300 milch cows during 1890 under the Pleuro-pneumonia Order. Of the 300, 120 or 40 per cent. were tuberculous, the percentages varying from 12 to 83, according as they came from one to another cowhouse. This was no exceptional experience, as in the following year a similar state of matters was revealed when the inmates of the most crowded and anciently infected cowhouses in London were also slaughtered. The energetic hygienic measures undertaken long before the baccillary nature of the disease was known has greatly diminished the death-rate from phthisis in mankind. The decrease that has taken place in the mortality from this cause for 10 years in Vienna, Paris, New York, Berlin, and London is seen by a glance at the subjoined table.

	Vienna.	Paris.	New York.	Berlin.	London.
1884	7·20	—	4·45	3·62	3·12
1885	7·25	—	4·25	3·62	2·90
1886	7·50	5·55	4·42	3·40	2·92
1887	6·45	5·12	4·05	3.13	2·70
1888	6·25	4·92	3·96	3·12	2·51
1889	5·83	5·12	3·84	3·30	2·51
1890	5·83	5·25	3·96	3·02	2·92
1891	5·75	5·12	3·52	2·95	2·80
1892	5·53	4·55	3·52	2·65	2·65
1893	5·12	4·93	3·50	2·72	2·61
1894	5·02	5·12	3·15	2·52	2·45

In each city, with the exception of Paris, a notable

* *Journal Camparative Pathology and Therapeutics*, vol. iv., part iv., p. 362.

diminution has occurred "The houses in Paris have externally, in most cases, a well favoured appearance, their arrangements internally, as shown by the small kitchens, bedrooms, and unsanitary closets, leave much to be desired. The houses are, as a rule, far too high in proportion to the breadth of the streets. Still it must be admitted that no city has undertaken so systematically as Paris the work of street improvement, commenced by Haussman when Prefect of the Séine during the Second Empire. The object has been to connect the principal quarters of the city, first by main thoroughfares paralliel or perpendicular to the course of the Séine. Secondly, by circular boulevards ; and thirdly, by roads leading to the six main railway stations. These streets are the admiration of everyone, but opening immediately out of them are narrow tortuous streets, the houses of which have become still more over crowded by the population displaced in the improvement scheme. In Paris, in bye-gone times, a large number of block dwellings have been built without the least regard to the requirements of hygiene. In these light and ventilation are impeded, overcrowding and promiscuous living prevail, and crime and infectious disease find their most agreeable soil . . . . . Many of the worst slums have no doubt been abolished through the action of the *Commission des Habitations Insalubres*, but no provision is made for the accommodation of the persons displaced, who migrate into other low quarters, and reproduce the same state of things in them."*

From an analysis of the returns of the Registrar-General it is clearly indicated that the disease is especially prevalent in these over-built districts of our populous centres where crowded shut in courts and alleys, with their usual accompaniments of filth and squalor, are the prevailing features. "Old houses," says Dr. Cooper Patton, of Norwich, "are a great source of infection, and thus the disease is handed on from generation to generation. If this is true regarding human habitations it is doubly so with many of our cowsheds, the dilapidated condition of which renders purification impossible. The numerous crevices formed in the walls slowly crumbling into ruins through age and neglect, the unevenly paved floor loosely and imperfectly jointed, the unstable rotten wood partitions and carelessly fitted manger afford lodgment for all manner of filth. The subject of disinfection has received but scant attention, and is usually carried out in an aimless and spasmodic manner. Under the most favourable circumstances disinfection is a very difficult problem, but it becomes measurably so when dealing with these old sheds. Use what germicide you will, gaseous, fluid or solid, and still the work has been very superficially performed. Before disinfection in the true sense of the term can take place it is necessary to thoroughly remove all filth, and unless this is done the whole process is a fallacy. For instance, the byre of the Hatch Experimental Station "was not a suitable building from a sanitary point of view for the stabling of animals, but one which afforded favourable conditions for the spread of such a disease as tuberculosis. The cracks and crevices about the mangers, as well as in the floors, walls, and ceilings, made excellent places for the lodgment of germ-laden dust which could in no way be removed nor rendered harmless by the use of disinfecting fluids or washes. The walls were several times brushed over with lime-wash and strong corrosive sublimate solution. Chloride of lime and saturated solutions of crude carbolic acid were applied to all parts of the floor, mangers, and other fixtures of the buildings." Although carried out under the superintendence of scientific experts the work proved an abject failure. Prof. Brooks, writing to the President of the Mass. Agricultural College, regarding this says "in spite of our utmost attempts to disinfect our barn it appears to be thoroughly infected with the germs of tuberculosis."*

How much more so when in our case disinfection is almost entirely neglected? In order that it be of practical utility the premises must permit of it being regularly and continually carried into effect. To admit of this the inner walls and floors of every cattleshed and byre should be covered with a hard smooth impervious material such as concrete or cement with all junctions and corners carefully rounded off. Once a week *at least* these, along with the troughs, should be *thoroughly* cleaned with water, and then followed—if desired—by a germicide. It may be here mentioned that soft soap in a 1 per cent. solution is stated to be a valuable disinfectant for bac. anthracis and bacterium coli commune. Care, however, must be exercised in their selection as the ordinary soft soaps of commerce are often extremely unclean and possess very little value. The all important thing to be observed, however, is scrupulous cleanliness.

The absolute necessity of this is apparent, as it is well known that the bac. tuberculosis retain their vitality for a considerable time in putrefying material—43 days Schnill and Fischer ; 120 days Cadéac and Malet. In dessicated sputum their virulence is gradually lost so that they may retain their specific infectious power for several months (9 to 10 De Toma). They appear, however, to be very susceptible to the action of light, and are destroyed by an exposure to the direct rays of the sun in from a few minutes to several hours, according to the thickness of the layer, and by diffuse daylight in from five to seven days when placed near a window. This has a direct and important bearing on the prevention of tuberculosis, and one capable of being adopted with the most beneficial results at a trifling expenditure. The extremes of heat and cold resulting from a large expanse of glass may be entirely prevented by double glazing the window sashes ; in this way convection, conduction, and radiation take place very slowly. The grossly polluted atmosphere in which these animals are housed cannot but have a most injurious effect on their system. They, no doubt, after a time become climatised to the impure atmosphere, but this can only occur at the expense of diminished constitutional vitality. In dwelling houses anything above six volumes of carbonic acid in 10,000 is considered detrimental to health, but the result of an investigation by M. Millan into the condition of the atmosphere of cowsheds in and around Edinburgh shows the proportion to vary from 11·8 to 46·2, the average 22·8 Can anything be more expressive of the utter disregard of even the rudiments of sanitation in the housing of these animals? By the free admission of pure air we sweep away the infective agents and dilute them, thus reducing the chances of infection to a minimum. Coincidently we have a bracing up of the system, consequently the vital forces are infinitely more active in resisting invasion. In the presence of carbonic acid or when deprived of oxygen the movements of the ciliated epithelium lining the respiratory tract become weaker and less frequent. This doubtless favours infection. Virulent tubercle bacilli have been found in the nasal cavities and throats of healthy persons exposed to infection. Cornet found that of 311 samples of dust taken from places occupied by consumptives, 59 gave positive results, whilst 77 gathered from other sources proved negative. Any disturbing elements such as the movements to and fro of the attendants, the brushing down of the gathered dust of the past months at the half yearly cleaning, the vibration caused by heavy

* "Public Health in European Capitals," by J. M. Legge, 1876, p. 84.

* Bulletin No. 27 Hatch Experimental Station of the Mass. Agricultural College.

traffic in the immediate vicinity etc., launches them into the air. The bacilli have been found by Reinbold (1) and later Leon Delalivisse (2) in the air of infected rooms. The mere inhalation, however, of these organisms is not usually sufficient to cause infection in an animal with a strong healthy constitution, whose vital forces are in active operation, but as predisposing causes, want of light and exercise, unsuitable nutriment, over lactation, etc. play a very important part. As in men, the inhalation of dust produces a catarrhal condition, the severity of which chiefly depends on the amount and physical characters of the particles. Cattle respiring air charged with the dust of furnaces in Frieburg, Saxony, are frequently affected by a form of chronic caseous pneumonia of which the tuberculous nature has been demonstrated by the isolation of the bacilli, and by inoculation experiments. The inflammatory lesions produced in the lungs by the presence of irritant dust had favoured infection. Mill refuse and similar dusty material used as bedding is exceedingly offensive, being capable of producing much irritation when inhaled. There is no doubt that both acute and chronic injury results from a prolonged stay in a polluted atmosphere. Undoubtedly emphysema is largely caused in this way, and the frequency with which it is found after death speaks volumes regarding the inhumanity of the treatment meted out to these animals by man.

The following specifications of buildings liable to propagate and prevent its spread have been drawn out by Dr. Thorne Thorne.

"*Conditions of Dwelling-house tending to the Promotion of Tuberculous Consumption.*	"*Conditions of Dwelling-house tending to the Prevention of Tuberculous Consumption.*
"1. A soil either (*a*) naturally damp and cold, or (*b*) subject to the influence of the rise and fall of a subsoil water lying within a few feet of the surface.	"1. A soil which is dry (*a*) naturally, or (*b*) freed by artificial means from the injurious influence of dampness, and of the oscillations of the underlying subsoil water.
"2. A dwelling-house of which either the foundations, the area they enclose, or the walls are, by reason of faulty construction or otherwise, liable to dampness.	"2. A dwelling-house so constructed as to be protected against dampness of site, foundations, and walls.
"3. Such immediate surroundings of the dwelling-house as tend to prevent the free movement of air about it, and its ample exposure to the influence of sunlight.	"3. Such open space on at least two opposite sides of the dwelling-house as shall secure ample movement of air about it, together with its free exposure to the influence of sunlight.
"4. Such structural defects as would prevent the maintenance within all parts of the dwelling-house of ample movement of air by day and night, and free exposure of its habitable rooms to daylight."	"4. Such construction of the dwelling-house as will secure for its habitable rooms and throughout its interior free movement of air by day and by night, and the free access of daylight."*

For the eradication and prevention of tuberculosis good sanitation must play an important part, and everything which promotes and maintains a vigorous constitution will aid materially in its suppression.

(1) *Central f. Bact. u. Parasit*, vol. II.
(2) *Public Health*, vol. x., No. 4, p. 123.

* "The Dwelling-house in Relation to Tuberculous Consumption."—*The Practitioner*, vol. 46.

Discussion.

Mr. William Anderson opened the discussion and thanked Mr. Trotter for giving such an enjoyable paper which was both edifying, instructive, and interesting. However, he could not agree with the essayist as to tuberculosis not being hereditary as he had known several cases of calves being affected in the lungs previous to birth, which proved that the disease could exist *in utero*, and with all the statistics published there is not one able to prove that the offspring of a tuberculous father or mother is born healthy. He believed that tuberculosis was equally as hereditary as insanity, and we had many instances of people remaining of sound mind till they were adults and then giving way. No amount of literature on the subject would convince him that you could get sound healthy stock from unhealthy parents. There was no doubt that contagion played an active part in the spread of tuberculosis, but not so much as people imagined. The great evil, in his opinion, was in allowing suspicious animals to live to an old age, and he thought all cows should be slaughtered at five or six years old unless it could be proved that they were thoroughly free from tuberculosis, which could be done by applying the tuberculin test. The prevalence of tuberculosis being in his opinion due to this continued breeding from old cows. Mr. Anderson then referred to the flagrant use of tuberculin by laymen, as some farmers and others were making it a business inoculating their neighbours stock, and he thought tuberculin was only a reliable test when in the hands of a qualified veterinary surgeon. He proposed that the meeting should communicate with the Board of Agriculture to put a stop to the abuse of tuberculin as at present. (Cheers).

Mr. Douglas (Kilmarnock) followed and believed with Mr. Anderson that tuberculosis was hereditary. He had had 18 years experience in Ayrshire amongst large herds of dairy cows, and knew of a case where a farmer had a dairy of 50 cows and got a famous bull to breed prize stock, and on testing the progeny of that bull with tuberculin out of 16 three-year-olds 14 reacted, while out of 17 two-year-olds 12 reacted. The bull was then slaughtered and found to be badly affected with tuberculosis, and several of the animals that reacted were slaughtered and found affected in various degrees. In answer to a question by Mr. Trotter, Mr. Douglas said the cows which those three-year-olds and two-year-olds were bred off were all healthy, as he had tested them and they did not react.

Mr. Begg (East Kilbride) thought Mr. Douglas had failed to prove anything by his case, as he could give no proof that this bull had tubercular testes, and one might as well say a cow with tubercular lymphatic glands would give tuberculous milk which was not so. It was quite probable that those young cattle were exposed to infection and got it from outside cause and not from the bull at all. He thought milk would have to go up four times in price before we would get byres like what the essayist wished, and if landlords had to provide such byres rents would be very much increased. He thought the uncleanliness of the milkers had more to do with the spread of disease than the byres.

Mr. Douglas, in answer to Mr. Begg, said the bull had only been used two seasons, and all the mothers tested were healthy. All interested in the case were satisfied that it was purely a cause of hereditary tuberculosis, as the whole stock previous to the introduction of this bull had been extra healthy.

Mr. Taylor (Cathkin) thought if the members had had the paper a week previous to its being read they could have said more about it. He thought defective sanitation was at the root of the spread of tuberculosis. He certainly thought that there was a hereditary predisposition, and if a cow with this predisposition was placed along with affected cows she would certainly develope

the disease. He thought animals were most liable to show the disease when they reached maturity. Speaking of tuberculin he thought it would be far more reliable if applied when the cow was perfectly healthy, not as often it was done a few days before or after a cow calves. Proper sanitation, good ventilation, cleanliness, good light and proper feeding he looked upon as the most remedial agents for the suppression of tuberculosis. He did not think Government would assist them in getting rid of the disease, farmers would just have to help themselves, and he was afraid many farmers would not have the tuberculin test applied as they did not want to know how many affected animals they had. (Cheers.)

Mr. JAS. WEIR thought it was only a case of playing with words in trying to draw distinctions between a hereditary disease and a disease with a hereditary predisposition. There was no doubt sidebone was hereditary, but no one ever heard of a foal being born with sidebone. He had known families the members of which dropped off with tuberculosis when they reached maturity. He thought climate had a good deal to do with tuberculosis as the nearer we went to the tropics the less of it we found, and the sun's rays proved the best germicide we have. He had heard that certain farmers were in the habit of applying the tuberculin test to a cow several times until she became immune. (Cheers.)

Mr. WILLIAM ROBB thought there was a good deal of statistics in the paper. He had been disappointed many times with tuberculin. At first he thought it infallible, but not now. He used to find from 30 to 40 per cent. of cows affected, but not so now. He said Mr. Long, of the Board of Agriculture, was dead against compensation, and if he himself was a farmer he would not slaughter his affected cows but simply pass them on. It is to benefit the public we condemn, then he thought they should make the public pay for it.

Mr. ANDREW HAMILTON thought Mr. Douglas did not prove anything to be due to the bull, as the probability was the young cattle had acquired the disease through the lungs. Sidebone and insanity could not be compared with tuberculosis.

Mr. JNO. R. MCCALL thought there was a difference in a hereditary disease and a disease with a hereditary predisposition. In this predisposition the animal is born without the bacillus, whilst in a hereditary disease you should have the bacillus present. Take a calf with the predisposition to the disease, put it in favourable circumstances, and it will live through. Take a calf with the bacilli present in its system and it will eventually succumb.

A hearty vote of thanks was passed to Mr. Trotter for his paper.

JAMES BISHOP, *Hon. Sec.*

EXTRACTS AND NOTES.

PATHOLOGY IN GENERAL PRACTICE.

Mr. L. L. WEBB, the President of the Shropshire Branch of the B.M.A., in his inaugural address went on to speak of what he considered to be a real danger threatening the busy practitioner in these days. This was the danger of neglecting pathology. By pathology he did not mean merely pathological anatomy, or even pathological histology and chemistry, but the whole department of the sciences concerned with the nature and processes of disease. To be able to cope with illness one must understand its nature; in other words, they must, every one of them, be pathologists. And this knowledge of pathology was even more imperatively demanded of all who practised preventive medicine. Proceeding to consider the causes of the neglect of pathology, the President said that there were some who failed to see how pathological knowledge availed much in diagnosis, prognosis, and treatment; others, and he believed a larger class, took fright at the wide extent of the study, its formidable terminology, and the cost of the complicated apparatus used therein. Yet others (and this section was perhaps the largest of all) were those who had long forgotten the little pathology they once learned in the schools, and finding all such study a weariness to the flesh resolved to try to scrape along without it. They gave themselves over to therapeutics and the trial of every well-advertised new drug or system of treatment. These were they whose bible was the *Yearbook of Treatment*, and similar publications. He did not wish to depreciate these useful works, but he asked if there was not something unworthy and undignified in these attempts to take short cuts to success in treatment. If they were to remain one of the learned professions, they must endeavour to reach a high standard not only in ethics, but also in professional knowledge and skill. Not only had men in general practice done excellent work in morbid anatomy, histology, and bacteriology: they had also had among them observers of the first rank, who often with the most meagre appliances, and in the intervals of busy and distracting work had made discoveries of inestimable value. In illustration of this the President cited Edward Jenner; Robert Koch, who was in general practice when he discovered the bacillus of tubercle; and Laveran, who was on active service as an army surgeon in Algeria when he discovered the malaria parasite. Though they could not expect that many of them would be able to do pioneer work of this kind, they could, at any rate, occupy the country thus laboriously conquered for them. The rapid growth of the Empire had made it necessary that special attention should be paid to the diseases of hot climates. There was, he feared, but little doubt that as intercommunication between this country and the tropics increased, they would see more cases than at present of malarial fever, abscesses of the liver, dysentery, and such like. He did not intend to suggest that general practitioners were careless as to the scientific side of medicine; they had in the Branch many men who were doing good work. By way of remedy for the evil which he had pointed out, he recommended that they should revive their knowledge of pathology by observation, experiment, and reading. Practical skill in the use of apparatus might be gained by attending post-graduate classes, or by careful reading, supplemented by actual work in a laboratory, with someone already skilled in work of the kind, knowledge was thus, he knew from personal experience, acquired easily and pleasantly.—*The Brit. Med. Journ.*

Popular Lectures on Medical Subjects by Medical Men.

We have received a letter of complaint from a correspondent, who encloses a poster which he says is placarded all over his village, announcing a lecture by a local doctor on Some Interesting Facts in Physiology, with limelight illustrations. Our correspondent considers that this is not fair to the other medical men in the neighbourhood, and invites our comments.

*** The practice of giving popular lectures on medical subjects by medical practitioners has been so common during the past twenty years that it would be unfair to censure any one individual, as he can plead the example in all parts of the country of men occupying the highest professional positions. Undoubtedly some of these lectures have seemed to us to present objectionable features, but it would be unreasonable to say that a medical man should never give a popular lecture in his own village, and if he may do this it would be impossible to lay down rules within which he should select his subjects, although we may all agree that he should not use such an opportunity to advertise his own professional knowledge or skill.—*The Brit. Med. Journ.*

THE EXPORT OF HORSES.

An Order, dated November 25, 1898, has been issued by the Board of Agriculture respecting the export of horses. The first clause sets forth that "It shall not be lawful to convey in a vessel from any port in Great Britain any horse which, owing to age, infirmity, illness, injury, fatigue, or any other reason, cannot be so conveyed without cruelty during the intended passage and on landing." The second clause gives the provisions as to vessels carrying horses, which provisions are to apply to all vessels in or on which horses are carried from any port or place in Great Britain to any port or place outside the British Islands, except vessels belonging to her Majesty. It is provided, among other things, that "(i.) Each horse shall be carried in a separate box or stall of sufficient size, which shall be so constructed as to be of substantial character, and of sufficient strength to withstand the action of the weather and to resist the weight of a horse thrown against it. (ii.) The floor of each box or stall shall, in order to prevent slipping, be fitted with suitable battens, or shall be strewn with a proper quantity of sand or other suitable substance. (iii.) Each box or stall shall be provided with suitable means for slinging the horse carried. (iv.) Ship's fittings likely to cause injury or unnecessary suffering to horses shall be properly and securely fenced off. (v.) Horses while on board a vessel shall be protected against injury or unnecessary suffering from undue exposure to the weather." It is also required that all parts of the vessel on which horses are carried shall be sufficiently and suitably ventilated; that all parts of the vessels over which the horses pass, or in which they are stalled, shall be properly lighted; that between every two rows of horses, and in front of every single row of horses, there shall be a passage-way of a *minimum* width of 1ft. 6in., which passage-way shall be kept free of obstruction; that horses carried on a vessel shall be provided while on board with a sufficient amount of suitable food and water; that all horses while being carried on a vessel shall be securely tied by the head; that approaches, gangways, passage-ways, cages, and other apparatus used for the loading of horses on a vessel shall be so constructed that injury or unnecessary suffering shall not be caused to the horses; and that a vessel on which horses are carried shall carry a sufficient number of qualified attendants to properly tend the horses. It is further provided, by Clause III., that at every place in Great Britain where horses are put on board of vessels provision shall be made, to the satisfaction of the Board, for a supply of suitable water for the horses; and water shall be supplied there gratuitously, on request of any person having charge of any horse. The Order is to come into operation on January 1, 1899.

The Tsetse Fly Committee.

The Standard publishes a brief abstract of the report of the Committee, consisting of Professor Kanthack, Mr. H. E. Durham, and Mr. W. H. Blanford, which was appointed some time ago by the Royal Society to investigate the tsetse fly disease. The investigations have shown that the parasite which has been carefully studied by Major Bruce, R.A.M.C., in Africa, is capable of infecting a larger variety of animals than was previously known; it was found that blood drawn from a living diseased animal lost its virulence within three or four days, while material from a dead animal lost its virulence after about twenty-four hours. That part of the enquiry which was directed towards discovering a method of prophylaxis, or cure, has not been successful.

"The Oldest Anatomical Memoranda Extant."

In *The Journal of Anatomy and Physiology* for July there is a most interesting archæological note by Professor A. Macalister entitled, "The Oldest Anatomical Memoranda Extant." These are contained in a papyrus in the Leipzig Library which was brought from Egypt by the late Professor Ebers in 1872. A facsimile of this document was published in 1875 by Professor Ebers, and translations of it have been made by Professor Lieblein and Dr. Joachim. The papyrus was probably written sixteen centuries before the Christian era. In the most part the work consists of notes or memoranda copied by some ancient physician from still older medical writings. Dr. Macalister gives a translation made about ten years ago. The anatomical notes are of a highly fanciful character but are interesting on account of their antiquity. The title is as follows: *Beginning of the Book of the Mysteries of the Physician—The Knowledge of the Motions of the Heart—The Knowledge of the Heart.* The first sentence runs as follows:—

"There are vessels from it (the heart) to all the members. Each physician, master of healing, priest-exorcist, feels all these when he places his finger upon the head, upon the scalp (neck or occiput), upon the hands, upon the epigastrium, upon the arms or upon the legs. He traces all from the heart, because its vessels go into all his members, so he describes it (the heart) as the beginning of the vessels to all members."

Hereditary Transmission of Melanosis in Horses.

It is said that some remarkable examples of the hereditary transmission of melanosis in horses are cited by Virchow. One of these a young white stallion, with melanosis of the anus, transmitted this disease to all its white descendants, whereas those of a darker colour escaped. From horses thus bred the disease became widely diffused throughout the neighbouring country.

Veterinary Surgeon's Claim against a Hurlingham Lady.

At the Brompton County Court, before Judge Stonor, and a Common Jury, Edward Sewell, a veterinary surgeon, residing at 38, Thurloe Place, South Kensington, sued Mrs. Vera M. Kimpton, "Wensleydale," Ranelagh Avenue, Hurlingham, for £20 8s. 6d., the balance of a bill for 75 attendances upon indisposed dogs.—Mr. H. C. Gollan was counsel for the plaintiff, and Mr. Wildy Wright defended.

Mr. Gollan explained that the action was originally brought in the High Court for £49 5s. 6d., of which amount £28 17s. was admitted to be due. The balance now sued for was contested on the ground of excessive charges. The plaintiff claimed fees at the rate of half-a-guinea a visit, and the defendant held that at the most he was not entitled to more than 5s. 6d. The only point, therefore, was as to the question of fees.—Evidence bearing out counsel's statement was given by plaintiff and his assistant, both of whom said the charges were fair and reasonable.

Evidence having been called with the object of proving that five shillings per visit was the utmost that should have been charged, the jury returned a verdict for the defendant, with costs, and His Honour gave judgment accordingly.

CORRESPONDENCE

ADDITIONAL DEGREE.

Dear Sir,

It was with sincere pleasure that I read in a past issue the notice of motion by Professor W. O. Williams, and am confident that the additional qualification would be most welcome to the members of the profession.

That the Council desires to safeguard the interests of the profession is abundantly shown by its action anent the Public Health (Scotland) Bill, and having been successful in asserting the proper position of veterinary surgeons in matters pertaining to public health, it is only fitting that it should now institute a means by which we can show that we possess the qualifications requisite for such position.

By the judicious laws of the Council, by the excellence of the teaching at our schools and by our own conduct we now occupy a much superior position to that of some, years ago, and by all means let us go on advancing not only in social but in scientific attainments.

We are now on the same platform as the sister profession—the medical. Some members of that profession show to the public that they are specially qualified in public health duties by the possession of a diploma of public health and why should we not have an opportunity of doing likewise?

If Prof. W. O. Williams will excuse me I should like to suggest that the degree be known as V.D.P.H.—Veterinary Diploma of Public Health—as being a qualification which would stamp the possessor as being a man specially trained in all veterinary matters concerning the health of the public.

It is my earnest wish, and I venture to presume the wish of many more, that the opportunity of so designating ourselves will, by the progressive policy of the Council, soon be within our choice.—Yours truly.

McLauchlan Young, F.R.C.V.S.

The University, Aberdeen.

VETERINARY LECTURES.

Sir,

I feel sure that you will not mind me writing to you, and enclosing a cutting which I happened to read in a Hampshire paper at the end of last week, as I thought you might find room to insert it in *The Record* at the earliest opportunity, so that veterinary surgeons at large might see what there is to put up with in some parts.

I think it is time something is done when a veterinary surgeon gives lectures on the treatment of different diseases of the horse in various places, but seldom, I notice, in his own town or city.

Of course I should not blame a poor vet. lecturing on veterinary hygiene and stable management if he can earn a fee or two; but don't go and injure your neighbour.—Yours, etc.,

A. Maynard, M.R.C.V.S.

Veterinary Lecture.—The last of the series of lectures on the Horse was given on Tuesday last, and the attendance was again good. The diseases of this animal were treated, and many common fallacies explained away. Very practical advice was given as to the treatment of eye complaints, poll abscess, fistulous withers, spavin, and ringbone. The lantern slides were excellent. Col. Clarke, who has arranged these lectures, proposed a vote of thanks for the very able and useful addresses given. He was sure that every one had learned something, and many of the old fashioned methods of dealing with the horse had been proved to be be radically wrong. Mr. W. B. George (county councillor) in supporting, said he was very much interested in the lecture, and regretted his inability to attend the previous ones. The advice given would prove very valuable to all who had anything to do with horses.

LECTURES TO FARMERS.

Sir,

Have just been reading the letter by "Demetrius." One lecturer not only tells the farmers what veterinary books to read, but gives them prescriptions for gripe drenches, etc. In my opinion a man who will do this kind of thing must be very hard up for a job. If a man advertises himself in this way our Council wink at it, but if he does it in a straightforward manner, they call it "disgraceful conduct."

A Worcestershire Vet.

A STUDY IN PROFIT AND LOSS!

Dear Sir,

A few facts it would be interesting to know:

(1) How long does it take the average veterinary practitioner to earn back the £500 it has cost him to qualify for the noble profession?

(2) What may the clear profit of a vet. with a good average practice—say £300 or £500 a year—be estimated at in percentages?

(3) How many country vets.—or town ones—could live without horse dealing?

(4) Is our profession to be preferred as a means of existence before a trade?

Answers to the above from successful and money making vets. would interest yours humbly,

"M.R.C.V.S.L. and Empty Pocket."

"DOCKING."

Sir,

We are pleased to see the Royal Agricultural Society has taken hold of the "Docking" question. They are the right Society to stop this operation, and their influence will have far greater weight than has the R.S.P.C.A. in their attacks on individual veterinarians, who dare not refuse to operate, for fear of the inevitable result of losing their client's future patronage. Moreover, if we refused, our client would call in the blacksmith, or ask his groom, or do it himself.

Now, however, that the R.A.S. has taken the subject up, we are hopeful that the "fashion" may speedily change, and our services only be required whenever the operation is justifiable. The question of surgical "cruelty" may, however, go to the other extreme, and some veterinarians may be caught by an officer of the R.S.P.C.A. operating on a horse's tail when its amputation is necessary, and get summoned before the usual ignorant—so far as veterinary work is concerned—tribunal, found guilty, and fined.

There are some—even now-a-days—who think "nicking" is justifiable under certain circumstances, but there are others—even veterinarians—probably who cannot perform the operation, who would gladly punish anybody who performed this operation whatever the conditions were. "Cropping" horses and dogs ears might also be necessary, as for instance in diseases of the external ear, and if at any time the operator "cropped" the other sound one to make them appear less conspicuous we presume that would be considered "cruel." Opinions however might differ on this as on many other similar points, and we ought to have a clear understanding as to our position in such matters. How many of us have "fired" *both* legs when only one was diseased—of course

it is wrong (?), but many of us *have to do it* to satisfy our clients, and if we refused, well! we all know what the consequences would be. Again, there is quite as much "cruelty" or shall we call it "fashion" or "necessity," in administering drugs—and not always harmless ones either—to our patients when they are not wanted, except to fill the ledger.

We must closely watch this cruelty business, and be very careful we only lend our assistance to the R.S.P.C.A. when the case deserves our help, and is a *bonâ fide* case of wanton cruelty.

We hardly think some of our members are to be trusted in this respect after the remarks we have lately read on those hard working, useful, and much abused men—the experimental physiologists and pathologists—to whom modern surgery owes so much. We must remember that what some call "cruelty" has its useful side as well as the opposite, and discretion is required in discrimination between them. It should be one of our duties as veterinarians to try and teach judges, magistrates, officers and members of the R.S.P.C.A., and ourselves, in fact every one we come in contact with, what "cruelty" is; and so try to obviate any action at law being brought against us as practitioners.—Yours truly,

NEMO.

THE STEEL MEMORIAL.

Sir,

With every respect for the individual opinion to which you, as a member of the original Steel Memorial Committee, gave editorial expression in your issue of the 26th ult. I cannot help thinking that your remarks would have carried greater conviction had they been substantiated by reference to the facts, if indeed such a reference had not caused them to assume an entirely different tenour.

I have been at some pains to inform myself of the promises made at the inception of the Fund and during the collection of the money and, contrary to your example, I shall avoid, as far as may be, the expression of personal opinion, confining myself to statements of fact.

The Fund was instituted for the purpose :—

> "Of meeting the aims of the profession, *of helping students*, and at the same time carrying out what would no doubt have been most agreeable to the deceased." (Capt. Raymond's report, March 19, 1891.)

Of the total amount subscribed £185 5s. was given on the faith of the manifesto issued by Dr. Fleming and Mr. Wragg, which said :—

> "As most of our readers are aware, the objects of the Fund is twofold; namely, to perpetuate the name of J. H. Steel, *by instituting a prize to students of all our schools*." (Manifesto of May 23rd, 1891).

On May 30th, 1891, the Editor of *The Veterinary Record* said that the object of the Central Society in contributing :—

> "Is to assist in establishing a prize of some kind, which will perpetuate Steel's name, *and induce men to follow his example*."

Steel was a young man (he died at thirty-six), and his chief claim to honour lies in having achieved important work early in his professional career. Men at the end of their career cannot imitate Steel's example. The intention clearly was to encourage young members of the profession (among whom I include students). That the Editor of *The Veterinary Record* had, at that time, the same intention is shown by his moving, on May 2nd, 1892, that the reward be limited :—

> 'To members of the profession of not more than two years standing."

On June 11th, 1891, at the Lincolnshire Veterinary Medical Society, Mr. Gooch, a member of the original Steel Committee, stated in answer to a question that :—

> "The promoters were endeavouring to raise sufficient money to establish *a scholarship open to all the schools*, to be called the "John Henry Steel Scholarship."

The only definite statement made therefore until after the subscription list was closed was that the object of the collection was to form a prize or schlorship *for students*.

That is the point to bear in mind. No explanation or resolutions afterwards can alter the fact that the Fund was collected on the base of certain promises and that these promises have not been carried out. What justification there was for the change is not for me to determine, though it would require a great deal of argument to convince me of my right to accept a medal or other donation procured with money which I had myself collected on the representation that it should be used *to institute a prize to students*.

Your editorial, sir, would lead me to suppose you see nothing undesirable in such a course. On this head I venture respectfully to disagree with you.

Whatever else remains obscure as to the intention of the subscribers this at least seems clear, viz., that they did not intend their prize for men at the end of their careers, but at the beginning, men who could look on the medal not as a recognition of work long past, but as an incentive to future efforts, men, in a word, of to-day. That it is which equally justifies the nominations of last year and condemns those of the present.—Yours faithfully,

56 New Bond Street,
Nov. 29th, 1898.

JNO. A. W. DOLLAR.

[Before writing the article with which Mr. Dollar disagrees we carefully looked up the facts but did not reprint them as we thought they were not controversial. The Steel Memorial was initiated for one chief purpose—to commemorate the man whose name is attached to it. The method of doing this is quite secondary. The first method mentioned was undoubtedly only a prize for students. For reasons this was abandoned.

Mr. Dollar says—"No explanation or resolutions afterwards can alter the fact that the Fund was collected on the base of certain promises, and that these promises have not been carried out." We venture to think that when, between the collection of a fund and its realization, a public meeting of the subscribers is called at which a unanimous decision is arrived at to vary the method of its disposal, no room is left for cavil. Such a meeting was held to settle the final direction of the Steel Fund. Six years have elapsed since then, and until now no complaint has been heard.

As to the facts there is no dispute; as to the opinions which may be formed thereon there is perhaps room for conjecture and for fallability.—ED.]

COMMUNICATIONS, BOOKS, AND PAPERS RECEIVED :—Messrs. H. J. Dawes, J. P. Rothwell, N. Howe, Jno. A. W. Dollar, E. P. Owen, W. Penhale, W. Maynard, "A Worcestershire Vet." "Nemo."

The Housing of Cattle, by A. M. Trotter.

Original articles and reports should be written on one side only of the paper and authenticated by the names and addresses of the writers not necessarily for publication.

We shall be obliged by early intelligence of all matters worth bringing under the notice of the profession, and thankful to any friends who may send us cuttings from local papers containing facts of interest.

Communications for the Editor to be addressed 20 Fulham Road, S.W.